DOCUMENT RESUME

ED 097 329 95 SP 008 491

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TITLE Related Problems and Strategies for the Development and Implementation of CBTE Programs.
INSTITUTION State Univ. of New York, Buffalo. Coll. at Buffalo.
SPONS AGENCY Office of Education (DHEW), Washington, D.C. Teacher Corps.
PUB DATE Feb 73
NOTE 24p.

EDRS PRICE MF-$0.75 HC-$1.50 PLUS POSTAGE
DESCRIPTORS *Change Strategies; *Educational Development; *Performance Based Teacher Education; *Program Development; Teaching Skills

ABSTRACT

This paper discusses aspects of competency-based teacher education in order to provide useful information for developers. Some essential elements of a competency-based program are described, and three approaches for bringing about programmatic and organizational changes necessary for competency-based program development are defined. Advantages and disadvantages are listed for each of these approaches. Problems that reflect a variety of strategies employed in programs at the State University College in Buffalo, New York are identified and discussed: (a) the identification and verification of competencies, (b) the development of a delivery system, (c) the initial involvement of faculty, (d) the degree of field-centeredness, (e) the dilemma of assessment and record keeping, and (f) scheduling for individualized and self-pacing instruction. A five-item bibliography is included, and "Handbook for the Development of Instructional Modules in Competency-Based Teacher Education Program" is appended. (PD)

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RELATED PROBLEMS AND STRATEGIES FOR THE DEVELOPMENT AND IMPLEMENTATION OF CBTE PROGRAMS

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FEBRUARY, 1973

SP008 491

RELATED PROBLEMS AND STRATEGIES FOR THE DEVELOPMENT AND IMPLEMENTATION OF CBTE PROGRAMS

Introduction

The main thrust of the Teacher Corps Project at State University College at Buffalo for the past three years has been the development and implementation of a Competency Based Teacher Education program. As we moved toward our goal we encountered some key decision points and resultant problems. For those readers who are beginning to embark on a similar venture, we offer the following description of those decisions, problems, and alternative solutions with the hopes that it may provide some cautionary, but useful information to developers. Perhaps it will generate better alternatives than those we have experienced in our project implementation. In addition, we have inserted throughout the report, some problems and decisions encountered at other institutions. Whatever the outcome as a result of reading this report, we would like to emphasize that though we have encountered hurdles in development and implementation, we feel that Competency Based Teacher Education is currently the strongest viable alternative in teacher education.

Foundation for a Competency Based Teacher Education Program

As we view it, a Competency Based Teacher Education program is one in which the competencies to be acquired by the prospective teacher, and the criteria to be applied in assessing the competencies of the prospective teacher are made explicit, and the prospective teacher is held accountable for meeting those criteria. The competencies specified should be those particular understandings, skills, behaviors, and attitudes believed to facilitate the intellectual, social, emotional,

and physical growth of children.

A Competency Based Teacher Education program is not a philosophy; it is a systemized delivery system which offers open communication between all of the participants. In fact the Competency Based concept offers a unique blend of philosophies hopefully drawing upon the strength of each. It is Essentialistic in nature in that it requires students to demonstrate cognitive knowledge about the fundamentals of learning; it is Perennialistic in nature because the CBTE concept insists on demonstrated evidence of mastery of the basic cognitive, and demonstrative foundations; it is Progressivistic in nature because it readily acknowledges the state of flux in many areas of educational concern, and provides the machinery for continual revision and growth; and finally, it is Existentialistic in nature because it does provide the student with choice in the manner in which he is to learn and demonstrate his ability.

Essential Elements of a Competency Based Program

Before a decision can be made by an institution moving toward a competency based program, a thorough examination of the essential elements and related characteristics should be made. A good description of these appears in a document prepared for AACTE by Stanley Elam.[1] Although the description offered by Elam is a consensus of major developers of competency based programs, we recommend that the final decision as to what will be the basic or essential ingredients of a particular program be left to the discretion of the individual institution. For example, the Teacher Corps project at State University College at Buffalo has taken those essential elements listed by Elam:

1) Teaching competencies to be demonstrated are specific, made public in advance, and are written in measureable terms.

2) Assessment criteria to be used are specific, made public in advance and are competency based.

3) Assessment takes into account student knowledge, but also requires student performance as evidence of competence.

4) Student's rate of progress is competency based rather than time based.

5) The instructional program facilitates student's achievement of specific competencies.

and has incorporated the following characteristics as also essential:

1) Training must be field centered, and thus a multi-institutional pattern of organization is necessary.

2) The availability of learning options to reach specified objectives or competencies.

3) The program must allow for self-pacing.

4) The student is held accountable for performance.

5) A systemic approach is employed which is both open and regenerative.

6) The role of the teacher is viewed as an enabler of learning.

It is important that throughout the discussion of problems and alternate solutions, that one keep in mind the basic characteristics which structure the development of the program. In other words, it seems imperative to us that one has a basic concept of the developer's intentions when decisions are made in order to establish some rationale.

Determining Where to Begin

An institution has as one of its first key decision points, that of deciding where to begin in terms of bringing about the programmatic and organizational

changes necessary for competency based program development.[2] We would like to suggest that, in our viewpoint, there are three major procedures or approaches which may be available for adoption as a starting point:

1) Conservational
2) Transformational
3) Pluralistic

The "conservational" approach is defined as an approach which takes into consideration the present teacher education program and provides for the translation of courses into a competency based mode. The essential elements of CBTE are adhered to but the limitations are bound by the conversion of one, two, or three courses in the professional sequence. Another variation of the conservational approach is the translation of present courses into competency statements with the intent that the traditional course will deliver the competencies stated. A third variation is to convert a cluster of related courses (i.e. educational psychology, human growth and development, methods) into a number of instructional modules which are in effect interdisciplinary.

Some advantages of this approach:

1) It offers the opportunity to pilot a CBTE project without the resultant delay caused by the pursuit of total commitment.
2) It provides a controlled immersion into the competency based concept which may ease the pain of change.

Some disadvantages:

1) With this approach there remains the possibility of not taking into account the total program picture or the "gestalt" of the intended product.

2) There is also the possibility of the tendency to "warm over" or rehash the same old structure.

The second approach is at the opposite end of the spectrum and is called "transformational." This procedure involves the identification of competencies which the institution has decided are important to the formation of the teacher. Thereupon, the development of appropriate instructional materials and procedures which lead to those goals (competency achievement) is also accomplished.

This approach may be arrived at as a result of a theoretical base, a study of the role of teachers, as study of children's needs, etc. One advantage of the approach is that with total conceptualization, program evolvement is given a stronger basis for existence. The disadvantage is the amount of time and expertise needed to develop the total package. However, there are many resources, such as other programs which have developed in this direction, that are available for visitation and consultation. Another valuable source for such conceptualization is the original planning documents of the Elementary Model Programs.

The third approach is "pluralistic" in nature. Developers who use this approach possibly translate coursework into competency statements and develop modular instruction. From this, a number of competencies that are generic to the professional sequence are gleaned out as essential and therefore, basic competencies. This is followed by the redevelopment of original coursework and the creation of a new instructional component which would, in a sense, guarantee basic teaching competencies which would be achieved by the graduates of the program.

The advantage of such an approach lies in the strategy used for development. It allows for faculty teaming. Faculty developmental and implementation teams can be utilized to work toward a variety of competency based programs. Each team is considered a "pilot" project and each is responsible for sharing the findings

and commonalities of its program.

The disadvantage lies in the number of faculty available to do this, in view of the fact that perhaps they would still be responsible for other institutional commitments. Smaller institutions, would find it advantageous to develop relationships with larger institutions or to form a consortium with schools of similar purpose.

These three approaches,

Conservational

Transformational

Pluralistic

reflect our interpretation of the three major avenues to change available to institutions moving toward competency based teacher education development. For another treatment of program translation, the reader is referred to the chapter on "Determining Objectives" in Houston's book on strategies and resources[3] and to the chapter by Jones on "Implementation of Programs" in Competency Based Teacher Education edited by Houston and Howsam.[4]

In our situation, we began with the modest goal of attempting to translate one or two specific courses for Teacher Corps interns into competency based components. While our initial success was less than spectacular, our perceptions concerning the path to our goal were brought into sharper focus. Our efforts during the first two years were directed at two major functions: first, to continue to develop as many competency based components within the program as possible; and second, to attempt to spread the word concerning the CBTE concept throughout the Division of Education, and the College as a whole. We were able to either directly or indirectly develop components of Module Clusters in Educational Psychology, Foundations of Education, Reading Diagnosis, Language Arts, The Teaching of Science, Linguistics, and general methods. In addition to our own use, hundreds of copies of the above

Module Clusters have been disseminated to other institutions throughout the country as foundations for the development of their own programs.

The present major task is the completion of a Taxonomy for our program which will serve as the gestalt and at the same time provide a focal point for the further development of competencies. At the same time, we realize that such a document may become obsolete soon after it is in operation. We believe that as new learning theories are developed, as new curriculum are instituted, and as education moves forward, a CBTE program or any education program must be regenerated or it will quickly lose its relevancy.

On the following page is "An Abridged Graphic Taxonomy for CBTE" which reflects some of our thinking in terms of a Taxonomy. (See Chart 1) It should be noted that it is not complete nor is it necessarily behavioral. The actual behavioral objectives would result from the broad objectives in the Taxonomy.

Related Problems and Alternative Solutions

The Teacher Corps Project at the State University College at Buffalo and other programs utilized a varied approach in the three years of development and implementation. We have proceeded from translating single courses (conservational) through the development of a taxonomy of basic competencies (transformational). During this experience we have noted that there are problems generic and possibly inherent in all approaches. These problems reflect a variety of strategies employed in several programs though not discussed in any necessary order. These are identified as:

1) The identification and verification of competencies
2) The development of a delivery system
3) The initial involvement of faculty

AN ABRIDGED GRAPHIC TAXONOMY FOR CBTE

THE TEACHER AS:	A PERSON	A DIAGNOSER	A PRESCRIBER	A COMMUNICATOR	AN IMPLEMENTER	A PROFESSIONAL
DOES/IS:	WARM OPEN CARING ACCESABLE AUTHENTIC	INVESTIGATE ENVIRONMENT ACHIEVEMENT LEARNING STYLE LEARNING PROBLEMS INTERESTS APTITUDES	SET APPROPRIATE GOALS AND OBJ. PROVIDE APPRO- PRIATE LEARNING ACTIVITIES PROVIDE FOR IN- DIVIDUALIZATION	INTER-ACTS VERBALLY AND NON-VERABLY EXPRESSES HIMSELF CLEARLY DEMONSTRATES	ESTABLISH EFFECTIVE CLASSROOM CLIMATE UTILIZE A VARIETY OF APPROACHES MOTIVATE	RECEPTIVE OF CRITICISM A TEAM MEMBER RESPONSIBLE GROW
KNOWS:	HIMSELF GROUP DYNAMICS INTERPER- SONNEL SKILLS	SOCIOLOGICAL CONCEPTS AVAILABLE ASSESSMENT INSTRUMENTS TESTING PROCEDURE	HOW TO WRITE RELEVANT GOALS AND BEHAVIORAL OBJECTIVES SUBJECT MATTER INCLUDING MULT- IPLE APPROACHES INDIVIDUALIZATION PROCEDURES LEARNING THEORY	QUESTIONING TECHNIQUES HIGHER-ORDER QUESTIONING DISCUSSION TECHNIQUES INTER-ACTION ANALYSIS DEMONSTRATION TECHNIQUES	FEEDBACK INSTRUMENTS THEORIES OF CLASSROOM MANAGEMENT MOTIVATIONAL TECHNIQUES MEDIA	SCHOOL ORGANIZATION HOW TO READ AND INTERPRETE RESEARCH PROFESSIONAL ORGANIZATIONS AVAILABLE JOURNALS

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4) The degree of field-centeredness

5) The dilemma of assessment and record keeping

6) Scheduling for individualized and self-pacing instruction

Taking one problem area at a time, a discussion of alternate solutions and considerations is offered.

The Identification and Verification of Competencies

Programs have experimented with the identification of competencies in several ways. At Buffalo, the general strategy has been to identify basic competencies from three sources:

1) Research - There is a multitude of studies which reveal those competencies which effect learning.

2) Logical Argument - There are several competencies which staff can logically defend as necessary from their expertise in teacher education.

3) Gut Level - There are some competencies which our intuition tells us should be a necessary component of a teacher education program.

These three sources help to build a beginning structure for competency based program development but do not necessarily guarantee the omnicompetent teacher.

A second strategy we have used is to identify the role of the teacher. In Teacher Corps projects, team teaching is a requirement. Therefore, our identification of the role of a teacher was correlated to that of being a member of an instructional team. The roles identified ranged from observer, planner, small group instructor, tutor, media specialist, diagnoser of learning problems through team

leader. As each of these roles were defined, appropriate competencies for each role were specified. Learning components were then developed to facilitate the achievement of the specified competencies.

A third strategy utilized has been that of creating a taxonomy of competencies which represent the total construct of the teacher as a person. For example, our taxonomy presently includes these six categories: human competencies, communicative competencies, diagnostic competencies, prescriptive competencies, implementive competencies and Professional concept (see chart 1). In each of these classifications, a number of competencies are being specified. Instructional modules are being developed to deliver the instruction and experiences necessary to achieve an acceptable level of competency. This strategy is currently undergoing a pilot phase.

Other problems for which there are not any alternatives are those related to research. Research of the competencies identified should lead to the verification of those which indeed have an effect on children's learning. Competency based programming is a conducive model for research.

Deciding on a Delivery System

Developers face the task of deciding how they will deliver the program which has the characteristics mentioned earlier in the description of those elements essential to competency based programs.

Some programs, such as ours, decided to utilize the instructional module because its format allowed us to provide for such elements as specificity, self-pacing, alternate learning activities, and assessment procedures. (see Appendix A) Other programs have utilized contracting as a competency based vehicle. These programs spell out all of the competencies they will hold the student accountable

for, provide a pre-assessment, and then develop a contract with the student which is designed to achieve those competencies he is lacking. In addition, a number of learning activities and projects are made known to him for his optional selection. This kind of procedure you will note also takes into account most of the essential elements of competency based program: assessment, self-pacing, individualized, learning options, etc.

It is our feeling at this stage of development that no teacher education program will be entirely modular. Modules in themself cause problems. We have found in our experience that students must go through a period of instruction, indoctrination, or a "hand-holding" stage as they are first introduced to modular learning. It seems that we did not take into account that our students had been conditioned over twelve to fifteen years of schooling to be teacher dependent for their learning. The freedom they are exposed to in modular instruction takes a while to get used to. Problems related to self-pacing and learning style are common. In the early stages of modular instruction, faculties will find it necessary to guide students as they make the learning decisions required in modular instruction.

Module development is a "people thing." The more people involved the more relevant the module. If the module is decided upon as the vehicle for delivering instruction, decisions related to module relevancy and acceptability are faced continuously. A strategy employed in our project which we have found to be beneficial, is the utilization of a module review committee. The committee consists of professors, public school teachers, interns, and Teacher Corps administrative staff. Each module is reviewed by this committee before and after the interns have completed them.

Initial Involvement of Faculty

Three problems which face developers in the training and involvement of staff are:

1) Available resources - financial as well as personal

2) Changing role of the professor

3) Reward system of the University

Competency based programs demand that the role of professor change from information giver to developer, counselor, facilitator, designer of learning activities, etc. At least initially, the professor is involved timewise much more so than traditionally. Therefore, the reward system of the university (service, publish or perish) must take into account these kinds of responsibilities and support those professors highly involved in the process of development and implementation.

We have found that professors need to reorganize their approach to the teaching of college classes in a competency based program. The program demands advanced planning and careful identification of alternative resources and/or learning activities. Whether the program calls for module development or a redesign of the coursework to a competency base, the traditional adherence to class attendance, lecture orientation, assignment of grades must also undergo change. It appears that professors have also been conditioned and, therefore, a program of reconditioning and support must also be a component of the inservice college training program.

Although some projects have been fortunate enough to have Teacher Corps projects or other grants, the amount of finances needed to redesign current programs have not been excessive. Teacher Corps funds, for example, have for the most part

been cost of instruction and intern salaries. Very little funding has gone for development.

Degree of Field Centeredness

Questions related to this problem area are related to the establishment of new kinds of relationships with public schools, where the public schools become partners in the educational process of training teachers as well as teaching children.

Where will most of the professional training take place? Simulated experiences on campus or real life experiences with children in schools? How much of the program will be on-site? In Buffalo, the Teacher Corps project has been developing the Portal School concept. The public school and community are active partners in developing the teacher education program. Inservice and preservice instruction are blended in some instances. As a result of moving off-campus institutions will be facing a host of human relations problems due to the increased number of people involved.

Another caution in moving to a field setting is that once teacher education students are involved with children for long periods of time they seem to develop what we call the field-centered syndrome. One which in a sense causes them to reject everything but what is applicable to the here and now. Some fail to see the need for learning theory perhaps because of the seemingly "easy" application of the text book approach to learning which surrounds them in their daily contact with public schools.

Field centeredness which provides the laboratory setting necessary to implement the performance and consequential objectives of a CBTE program in and of itself can produce a number of problems.

The mere logistics of providing manpower in diverse public school settings suggests working with fewer schools while increasing the interns in each school. This direction is embraced by the Portal School concept (a teacher education/ public school site jointly sponsored by a university and public school system). However, developers need to be aware that merely designating any ongoing school as a Portal School is not sufficient to meet teacher training needs. If the public schools are to act as an extension of the colleges, then public school teachers need to be retrained to insure their own competency in all of those areas deemed essential by the teacher training program. In addition, the goals of a Portal School must be reflective of both the needs for training teachers, and the needs for changing the behavior of children. While these needs will be compatable in most cases there can be exceptions.

In the ideal Portal School a building is designated as the Portal School, and completely restaffed with teachers who are recruited from the system at large. This at least insures initial total commitment, and will allow the director to select staff members that are in themselves not only competent but most likely dedicated to the same teaching styles that the program will emphasize. For example, individualized instruction and team teaching.

In addition, with sufficient lead time the public school staff can also be trained in techniques such as supervision, and focused observation which allow them to function as adjunct teacher educators. In effect, the Portal School concept blends inservice and preservice education.

Unfortunately "ideal" Portal Schools will most likely be the exception rather than the rule for numerous reasons. Among these are the possibility of problems related to collective bargaining and the anticipated disruption of the ongoing operation. Most public schools districts feel that they have enough

problems of their own without taking on added responsibilities, and do not see teacher training as their function.

In reality, then, the strategy which is most often used is the adoption of a public school utilizing the faculty already present and designating it as a Portal School. At best one can expect only partial faculty support, and even less dedicated long term commitment.

Record Keeping and Assessment

Assessment in competency based programs must necessarily include a variety of procedures, ranging from paper and pencil tests, observation systems, through informal competency checks. This variety of procedures and the complicated task of assessing competency call for the development of a teaching profile. The profile indicates a running account of where the student is in terms of accomplishing the stated competencies in the program.

In an earlier project we utilized a competency profile which indicated to us whether the competency was assessed through a conference with the student or an observation and whether the assessment was positive or negative.[5] If programs are dealing with a great number of specified competencies, it seems reasonable that some of them may be assessed through a conference with the student. However, when teaching competency profiles indicate a high ratio of conference type assessments over observational types, programs of increased observation were prescribed.

Grading becomes a problem in competency based programs because there are no failures. Competency is either achieved or the student is recycled into another learning activity. It also is a problem because grading policies and practices are institutionalized. Some programs are utilizing the "Incomplete" or "In Progress" grade in addition to "Pass" or "Fail". This creates a number of problems for

students. For instance, graduate programs call for a certain grade point average, therefore, admission to these programs become complicated. Grading in itself has been a controversial issue, but we feel that policies can be created which will be acceptable to the profession.

Scheduling

Since we are still time-based (semesters) and course bound, the scheduling of students and instructional activities become a problem. Developers will be facing a number of decisions, such as, will the schedule be student centered so that the program will reflect, self-pacing and student needs? Can a schedule have some structure but still remain open-ended? Do we have computer resources which may be of assistance? The requirements of available learning options and self-paced student progress cause great consternation with program designers. Modular instruction does not eliminate the lecture but utilizes the lecture or one learning option. The professor conditioned to compulsory class attendance has to overcome an egocentric response to the selection of other instructional activities by students.

Institutions may find that a schedule of optional activities posted one week in advance and the requirement of signing up for these activities may be more manageable in the beginning. This will give students and staff time to adjust to the new freedom to learn.

We have presented a number of problems and alternate solutions related to competency based development. We by no means have intimated that these are final answers. The competency based movement is in its pioneering stage and there will be more problems to face. It may require an optimistic point of view, but once one gets involved in this exciting and challenging venture, there is no turning back. The only alternative available to us is the traditional teacher education program which in many instances has failed.

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APPENDIX A

The following information is from Section V Modules and Program Structure:

Handbook for the Development of Instructional Modules in Competency-Based Teacher Education Program.

Arends

Masla

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SECTION V

MODULES AND PROGRAM STRUCTURE

In the development of a teacher education program consisting of competency-based modules, it is helpful to reduce the various areas of competence and their associated instructional activities to the lowest denominator. This in turn calls for a restructuring of these lowest denominators into a complete package which might be labeled "teacher education program." As suggested earlier, the smallest element in the structure proposed here is referred to as a "module." Generally, isolated modules are of little value; it is only when they are combined with other modules and with several groups of modules that they become meaningful.

One advantage of using a modular approach in teacher education is that once a sufficient number of modules have been developed, the instructor in cooperation with the student can select those groups of modules and individual modules within each group which fit the individual needs of the student in relationship to his expected role as a professional educator. Further, the "buyer of the product," in this case the local school district, has a greater assurance that the "product" which it is buying is going to have competencies which complement the district's educational program.

This section examines two quite similar program structure hierarchies: (1) a module based on a single objective or, at most, two related objectives, a module cluster, a component, and finally a program; and (2) a module based on a cluster of objectives, a component, and finally a program. The differences between these two types of program structure are perhaps more academic than significant although common terminology will contribute to better sharing of ideas and products.

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Module

An instructional module has been previously defined as a set of learning activities intended to facilitate the student's achievement and demonstration of an objective or set of objectives. That definition was expanded in an examination of elements of the instructional module: an objective or objectives, prerequisites, pre-assessment procedures, learning alternatives, post-assessment procedures, and remediation procedures. Where program designers might opt for the "one objective to a module" notion, it would generally be the case that a single module would not stand alone but would rather be a part of a group of conceptually related modules--a module cluster.

Module Cluster

Some programs will no doubt build instructional modules around a group of related objectives while others will build a series of modules, each with but one specified objective or two closely related objectives. Whichever format is used, the point is clear: a single objective will rarely stand alone and be meaningful except as it is related to other objectives. Human behavior is far too complex a process to expect isolated outcomes to be meaningful. Building on an earlier example, the following is an example of a module cluster which would be built around a series of related modules. The ability to use a half-inch videotape recorder would be the focus of a single module which when combined with other modules on the use of other types of videotape recorders and with modules on the repair and cleaning of videotape recorders would be grouped together into a module cluster which might be referred to as a videotape recorder use and care cluster.

The reader will note that the same objectives which would be specified in the above example might--in a different program structure--be combined into a group, and the learning alternatives relevant to that group of activities could be perceived as a single module.

Component

A component is--depending upon the program structure favored--a related group of modules or a related group of module clusters which

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complement each other and form the basis for what might be called courses in traditional programs. Still using the previous example, a component might include all of the modules--or module clusters--dealing with the use and care of many types of audio-visual equipment and materials. Indeed, the component might be given a course-like or discipline-like label such as "instructional communications."

Program

The teacher education program, therefore, consists of all of the components. To carry our example one step further, "instructional communications" in conjunction with other components including components such as "educational psychology," "child development," and "social-cultural foundations," would constitute the program.

Program Model

The two figures which follow are intended to depict the two types of program structure we have discussed.

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